# *COMMONWEALTH of VIRGINIA*

***DEPARTMENT OF ENVIRONMENTAL QUALITY***

PIEDMONT REGIONAL OFFICE
4949-A Cox Road, Glen Allen, Virginia 23060
(804) 527-5020 Fax (804) 527-5106
www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

Michael P. Murphy
Regional Director


**COMMONWEALTH OF VIRGINIA**
**Department of Environmental Quality**
**Piedmont Regional Office**

**STATEMENT OF LEGAL AND FACTUAL BASIS**

Hopewell Power Station
107 Terminal Avenue - Hopewell, Virginia
Permit No. PRO – 51019

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Hopewell Power Station has applied for a renewal Title V Operating Permit for its 107 Terminal Avenue - Hopewell, Virginia facility. The Department has reviewed the application and has prepared a draft renewal Title V Operating Permit.

Engineer/Permit Contact:_____ Date:
Bruce C. Pollock
(804)–527-5143

Air Permit Manager:_____ Date:
James E. Kyle P.E.
(804)-527-5020

Deputy Regional Director:_____ Date:
Kyle Ivar Winter P.E.
(804)-527-5020

## FACILITY INFORMATION

Permittee
Virginia Electric & Power Company
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Facility
Hopewell Power Station
107 Terminal Avenue
Hopewell, Virginia 23060 -7813

County-Plant Identification Number: 51-670-00063

## CURRENT PERMIT ACTION DESCRIPTION

This permitting action is a renewal to the Dominion Hopewell Power Station Title V operating permit issued on November 25, 2002 and as amended on January 11, 2007 with an expiration date of November 26, 2007. The renewal application for the Dominion Hopewell Power Station Title V operating permit was received on May 29, 2007. An initial application review letter dated June 20, 2007 was sent to Dominion Electric and Power Company. The renewal application was considered timely since it was submitted six months prior to permit expiration. This permitting action will also incorporate CAM requirements which were to be submitted with the first Title V permit renewal since 2002. Since Dominion Electric and Power Company's renewal application was timely, the current Title V permit and permit shield will remain in effect according to 9 VAC 5-80-80 F and 9 VAC 5-80-170 C.

## SOURCE DESCRIPTION

NAICS Code: 221112 -Fossil Fuel Electric Power Generation; limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce.
SIC 4931 – Electric and other services combined.

Dominion - Hopewell Power Station is a cogeneration plant that produces electricity for sale to Dominion and process steam to nearby facilities. At maximum capacity, Hopewell Power Station produces electricity and up to 95,000 Lbs/hr of process steam. The facility is located at 107 Terminal Avenue in the independent city of Hopewell Virginia.

The facility includes two 391million BTU/Hr coal-fired stoker boilers with associated coal, lime, ash, and fuel handling systems, as well as several small diesel engine sources used to provide redundant or backup services. Although coal, with a maximum sulfur content of 1.3 percent, is the primary fuel for the stoker boilers, each boiler can fire natural gas for startup and warm standby. Also located at the facility are two package auxiliary boilers: one is a 73.43 million Btu/hr distillate or natural gas boiler and the other a 90 million Btu/hr natural gas boiler. These boilers are used to provide steam to the host during times when the stoker boilers are not operating.

The Hopewell Power Station facility completed initial performance testing in July of 1992 and began commercial operation as a cogeneration facility on July 1, 1992. The facility was purchased by Dominion in March of 2001 and began operating as Virginia Electric and Power Company's Hopewell Power Station. The facility was not operated from December 31,2001 until being restarted on April 7, 2007. The facility still supplies steam and operates its main boilers about two days per week to supply electricity during peak demands.

The facility is a Title V major source of: CO, NOx, PM, PM10, and SO2. This source is located in an attainment area for all pollutants, and is a PSD major source. The facility is currently permitted under a PSD Permit issued on March 26, 2001 and amended on November 4, 2002 and January 30, 2012.

**COMPLIANCE STATUS**

A full compliance evaluation of this facility, including a site visit, has been conducted on April 19, 2010. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance.

On July 10, 2008, due to previous reports and compliance evaluations, the facility and DEQ entered into a Consent Order to resolve a Notice of Violation alleging noncompliance with the short-term SO2 emission limits of 0.162 Lb/mmBTU, as required by Title V permit condition III.A.10. The facility failed to notify DEQ within 4-daytime business hours of an air pollution control equipment failure or malfunction that caused excess emissions for more than one hour, as required by the November 25, 2002 Title V permit condition: *XI. F. Failure/Malfunction Reporting*. The facility is now current with all notifications and has fulfilled all reporting requirements of the consent order with its last document submission on September 15, 2008.

The facility has one New Source Review Permit, PSD permit dated January 30, 2012 for construction and operation of a steam electric cogeneration facility consisting of:

- Two (2) primary coal spreader stoker boilers each with a rated capacity of 391 x $10^6$ btu/hour. Each boiler shall also be equipped with a 59.5 x $10^6$ btu/hour natural gas start-up burner, a multiple cyclone collector, a lime-water injection spray dryer, and a fabric filter (40 CFR 60 Subpart Da).
- One (1) 90 x $10^6$ btu/hr auxiliary boiler (40 CFR 60 Subpart Dc).
- One (1) 73.43 x $10^6$ btu/hr auxiliary boiler (40 CFR 60 Subpart Dc)
- Coal handling system (unloading, storage, conveying).
- An ash disposal and flue gas desulfurization byproduct system.
- A lime handling system (unloading, storage).
- An ammonia handling system (unloading, storage).
- One (1) 1.2 x $10^6$ emergency boiler feed-water diesel pump.
- One (1) 0.68 x $10^6$ fire water diesel pump.
- One (1) 55 gallon non-halogenated cold solvent degreaser.

**EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION**

The emissions units at this facility consist of the following:

| Emission Unit ID | Stack ID | Emission Unit Description | Size / Rated Capacity | Pollution Control Device (PCD) Description | PCD ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| **Fuel Burning Equipment** | | | | | | | |
| 001 | 001 | Spreader Stoker Boiler #1 combusts coal or Natural Gas to generate steam for process use and electricity generation | 391 x $10^6$ BTU/Hr firing coal (Nominal);<br><br>59.5 x $10^6$ firing natural gas (nominal)<br><br>31.35 Mega-watts (Maximum generation capacity) | 1) Overfire Air System – staged combustion installed 1990;<br>2) Selective Non-catalytic Reduction System (SNCR) – Ammonia injection installed 1990;<br>3) Flakt Dry Lime Scrubber installed 1990;<br>4) Fabric Filter Baghouse installed 1990; | 1) 001/EC-1a;<br>2) 001EC-1b;<br>3) 001EC-1c;<br>4) 001EC-1d | 1) NOx (30% design control efficiency);<br>2) NOx (40% design control efficiency);<br>3) $SO_2$ (92% design control efficiency);<br>4) PM, $PM_{10}$ (99.9% design control efficiency) | PSD permit issued 1/30/2012 |

| Emission Unit ID | Stack ID | Emission Unit Description | Size / Rated Capacity | Pollution Control Device (PCD) Description | PCD ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| 002 | 001 | Spreader Stoker Boiler #2 combusts coal or Natural Gas to generate steam for process use and electricity generation | 391 x $10^6$ BTU/Hr firing coal (Nominal);<br><br>59.5 x $10^6$ firing natural gas (nominal)<br><br>31.35 Mega-watts (Maximum generation capacity) | 1) Overfire Air System – staged combustion installed 1990;<br><br>2) Selective Non-catalytic Reduction System (SNCR) – Ammonia injection installed 1990;<br><br>3) Flakt Dry Lime Scrubber installed 1990;<br><br>4) Fabric Filter Baghouse installed 1990; | 1) 002/ EC-2a;<br><br>2) 002/ EC-2b;<br><br>3) 002/ EC-2c;<br><br>4) 002/ EC-2d | 1) NOx (30% design control efficiency);<br><br>2) NOx (40% design control efficiency);<br><br>3) $SO_2$ (92% design control efficiency);<br><br>4) PM, $PM_{10}$ (99.9% design control efficiency) | PSD permit issued 1/30/2012 |
| 003 | 003 | Auxiliary Boiler A combusts Natural Gas or distillate oil produce steam for process use. | 73.43 x $10^6$ BTU/Hr burning natural gas or distillate oil. (nominal) | 1) Low NOx Burners installed in 1990; and<br>2) Flue Gas Recirculation installed 1990 | 003EC-3 | 1) NOx (30% design control efficiency);<br><br>2) NOx (60% design control efficiency); | PSD permit issued 1/30/2012 |

| Emission Unit ID | Stack ID | Emission Unit Description | Size / Rated Capacity | Pollution Control Device (PCD) Description | PCD ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| 005 | 005 | Auxiliary Boiler B combusts Natural Gas to produce steam for process use. | 90.0 x $10^6$ BTU/Hr firing natural gas (nominal) | 1) Low NOx Burners installed in 1994; and<br>2) Flue Gas Recirculation installed 1994 | 1) 005EC-5a;<br>2) 005 EC-5b | 1) NOx (30% design control efficiency);<br>2) NOx (60% design control efficiency); | PSD permit issued 1/30/2012 |
| 007 | 007 | Emergency Diesel Feedwater Pump | 1.2 x $10^6$ BTU/Hr 126 BHP | None | N/A | N/A | PSD permit issued 1/30/2012 |
| 009 | 009 | Diesel Firewater Pump Engine | 0.68 x $10^6$ BTU/Hr 208 BHP | None | N/A | N/A | PSD permit issued 1/30/2012 |
| **Process Equipment- Coal, Lime and Ash Handling and Storage** | | | | | | | |
| 004a | FUGITIVE | Coal Unloading – railcar dumping to below grade hoppers | 400 tons/hr | Dust Suppression Sprays installed 1990 | 004a/EC-4a | PM, PM10, (75% design control efficiency | PSD permit issued 1/30/2012 |
| 004b | FUGITIVE | Coal Pile Stacking – coal stacker tube | 400 tons/hr | None | N/A | N/A | PSD permit issued 1/30/2012 |
| 004c | FUGITIVE | Outdoor Coal Storage | 18,000 tons | None | N/A | N/A | PSD permit issued 1/30/2012 |
| 004d | FUGITIVE | Coal Crushing Operations – coal crushers | 150 tons/hr | Building Enclosure / Sprays installed 1990 | 004d/EC-4d | PM, PM10, (90% design control efficiency | PSD permit issued 1/30/2012 |

| Emission Unit ID | Stack ID | Emission Unit Description | Size / Rated Capacity | Pollution Control Device (PCD) Description | PCD ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| 004e | 004e | Coal Silo #1 – crushed coal storage | 180 tons | Bin Vent Filter installed 1990 | 004e/EC-4e | PM, PM10, (0.02 gr/scf, ~98% design control efficiency) | PSD permit issued 1/30/2012 |
| 004f | 004f | Coal Silo #2 – crushed coal storage | 180 tons | Bin Vent Filter installed 1990 | 004f/EC-4f | PM, PM10, (0.02 gr/scf, ~98% design control efficiency) | PSD permit issued 1/30/2012 |
| 004g | 004g | Coal Silo #3 – crushed coal storage | 180 tons | Bin Vent Filter installed 1990 | 004g/EC-4g | PM, PM10, (0.02 gr/scf, ~98% design control efficiency) | PSD permit issued 1/30/2012 |
| 004h | 004h | Coal Silo #4 – crushed coal storage | 180 tons | Bin Vent Filter installed 1990 | 004h/EC-4h | PM, PM10, (0.02 gr/scf, ~98% design control efficiency) | PSD permit issued 1/30/2012 |
| 010 | 010 | Ash conveying – A ash conveying blower | 27.8 tons/hr | Bag House installed 1990 | 010EC-10 | PM, PM10, (0.02 gr/scf, ~98% design control efficiency) | PSD permit issued 1/30/2012 |
| 012 | 012 | Ash conveying – B ash conveying blower | 27.8 tons/hr | Bag House installed 1990 | 012EC-12 | PM, PM10, (0.02 gr/scf, ~98% design control efficiency) | PSD permit issued 1/30/2012 |
| 013 | 013 | Ash conveying – C ash conveying blower | 27.8 tons/hr | Bag House installed 1990 | 013EC-13 | PM, PM10, (0.02 gr/scf, ~98% design control efficiency) | PSD permit issued 1/30/2012 |
| 014 | FUGI-TIVE | Ash Conditioning System | 60.0 tons/hr | Ash Conditioning System – water sprays installed 1990 | 014 EC-14 | PM, PM10, (0.02 gr/scf, ~98% design control efficiency) | PSD permit issued 1/30/2012 |

| Emission Unit ID | Stack ID | Emission Unit Description | Size / Rated Capacity | Pollution Control Device (PCD) Description | PCD ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| 015 | 015 | Recycle Ash Bin – recycle ash storage | 26.5 tons | Bin Vent Filter installed 1990 | 015 EC-15 | PM, PM10, (0.02 gr/scf, ~98% design control efficiency) | PSD permit issued 1/30/2012 |
| 016 | 016 | Ash Silo – fly ash /bottom ash storage | 530 tons | Bin Vent Filter installed 1990 | 016 EC-16 | PM, PM10, (0.02 gr/scf, ~98% design control efficiency) | PSD permit issued 1/30/2012 |
| 017 | 017 | Lime Silo – pebble lime storage | 135 tons | Bin Vent Filter installed 1990 | 017 EC-17 | PM, PM10, (0.02 gr/scf, ~98% design control efficiency) | PSD permit issued 1/30/2012 |
| 019 | 019 | Non-Halogenated Cold Solvent Degreaser | 30 gallons | None | 018/EC-18 | VOCs | N/A |

*The Size/Rated capacities and PCD efficiencies are provided for informational purposes only, and are not applicable requirements.

**EMISSIONS INVENTORY**

The following table from Conditions #37 & 39 of the PSD permit issued 1/30/2012, lists the facility's potential to emit of criteria air pollutants and non HAP, non VOC toxic air pollutants.

| Pollutant | PTE in tons/yr |
|---|---|
| $PM_{10}$ | 59.6 |
| $SO_2$ | 519 |
| $NO_X$ | 956 |
| CO | 637 |
| VOC | 96.5 |
| HF | 2.2 |
| Sulfuric Acid Mist | 41 |

A copy of the 2011 annual emission update is attached. Emissions are summarized in the following tables.

**2011 Criteria Pollutant Actual Emissions**

| | 2010 Criteria Pollutant Emission in Tons/Year | | | | |
|---|---|---|---|---|---|
| **Emission Unit** | **VOC** | **CO** | **$SO_2$** | **$PM_{10}$** | **$NO_x$** |
| 001, Boiler 1 | 0.041 | 8.686 | 8.800 | 8.704 | 67.300 |
| 002, Boiler 2 | 0.421 | 8.958 | 8.800 | 8.974 | 69.400 |
| 003, Aux Boiler A | 0 | 0 | 0 | 0 | 0 |
| 004, Coal Handling Total | | | | 0.140 | |
| 005, Aux Boiler B | 0 | 0 | 0 | 0 | 0 |
| 007,Emergency Diesel Feedwater Pump | 0.001 | 0.005 | 0.001 | 0.001 | 0.021 |
| 008, Diesel Welder Engine | 0.000 | .001 | 0.000 | 0.000 | 0.003 |

| Emission Unit | VOC | CO | $SO_2$ | $PM_{10}$ | $NO_x$ |
|---|---|---|---|---|---|
| 009, Diesel Firewater Pump | 0.003 | 0.007 | 0.002 | 0.002 | 0.031 |
| 010, Ash Convey - A Blower | | | | 0.626 | |
| 012, Ash Convey - B Blower | | | | 0.020 | |
| 013, Ash Convey - C Blower | | | | 0.237 | |
| 014, Ash Unloading Feeder | | | | 0.001 | |
| 015, Recycle Ash Bin Storage | | | | 0.040 | |
| 016, Ash Silo, Fly Ash | | | | 0.030 | |
| 017, Lime Silo - Storage | | | | 0.000 | |
| CEDs Total | 0.834 | 17.656 | 17.604 | 18.776 | 136.755 |

Fossil fuel fired boilers (001,002) are also subject to 40 CFR Part 96 Subpart AA

**2011 Facility Hazardous Air Pollutant Emissions**

| Pollutant | 2011 Hazardous Air Pollutant Emission in Tons/Yr |
|---|---|
| 1,1,2,2 Tetrachloroethane | 0.001 |
| HCL | 0.428 |
| HF | 0.049 |
| Methylene Chloride | 0.000 |
| Tetrachloroethylene | 0.001 |
| Radionuclides | 0.000 |
| 1,1,1 Trichloroethane | 0.000 |
| CEDs Total | 0.480 |

**EMISSION UNIT APPLICABLE REQUIREMENTS – Unit ID Nos. 001, 002, 003, 005, 007,& 009. Fuel Burning Equipment**

There are six fuel burning emission sources with specific applicable requirements: the Stoker Boilers (001 and 002), the auxiliary boilers (003, and 005), and the emergency diesel feed-water pump and the emergency firewater pump (007 and 009). These sources are regulated in the January 30, 2012 PSD Permit, 40 CFR 60 Subparts Da & Dc and 40 CFR Part 75 (CEMS), and 40 CFR Part 96 (CAIR).

The Stoker Boilers (001,002) are subject to NSPS Subpart Da because they are electric utility steam generating units for which construction commenced after September 18, 1978 (in service date: July 1, 1992) and are rated greater than 73 Megawatts electrical (250 mmBTU/Hr). The boilers also, meet the requirements for and are subject to the Clean Air Interstate Rule, or CAIR).

On December 23, 2008, a federal appellate court made a decision to reverse its vacatur of EPA's Clean Air Interstate Rule and instead remanded it to the agency. The applicability of CAIR to the generators supersedes the applicability of 40 CFR Parts 75 and 96 Subpart A, the NOx Budget Trading Program, to Dominion Inc. The NOx Budget Trading Program section of the Title V permit has thus been removed. The generators are permitted under the January 30, 2012 PSD Permit .

The auxiliary boilers (003 and 005) are subject to NSPS Subpart Dc because they were constructed after June 9, 1989 and they each have a heat input capacity greater than 10 MMBtu/hr but less than 100 MMBtu/Hr. These units are permitted under the January 30, 2012 PSD Permit .

The emergency boiler feed water diesel pump (007) and the emergency fire water diesel pump (009) are permitted under the January 30, 2012 PSD Permit . They are not subject to NSPS Subpart IIII because they were constructed before the applicability date of July 11, 2005 and 2007 (for the fire pump) and have not since been reconstructed or modified.

**Limitations**

The following Title V permit limitations consist of emission standards and/or operational conditions based upon BACT determinations, NSPS standards, and CAIR requirements for the fuel burning equipment as well as the limitations listed in the November 4, 2002, PSD permit. The condition numbers are those listed in the January 30, 2012 PSD Permit .

Condition # 3 Particulate emissions from the primary coal boilers shall be controlled by an in-line multiple cyclone, a lime water injection spray dryer, and a fabric filter rated at 99.9 percent control efficiency. The control systems shall be provided with adequate access for inspection. The fabric filter may be by-passed during non-coal fuel boiler start-ups and operations. Each fabric filter shall be equipped with a device to continuously measure pressure drop.

Condition # 4 Particulate emissions from the $90.0 \times 10^6$ btu/hr auxiliary boiler and the $73.43 \times 10^6$ btu/hr auxiliary boiler shall be controlled by good combustion practices.

Condition #14 Sulfur dioxide emissions from the primary coal boilers shall be controlled by a water-lime injection spray dryer (a dry FGD system) at 92 percent control efficiency. The control system shall be provided with adequate access for inspection.

Condition #15 Nitrogen oxide emissions from the primary coal boilers shall be controlled by a continuous coal feed system, staged combustion low excess air, and selective non-catalytic reduction.

Condition #16 Nitrogen oxide emissions from the 90.0 x $10^6$ btu/hr natural gas auxiliary boiler shall be controlled by the use of a low nitrogen dioxide burner and flue gas recirculation.

Condition # 17, Each primary coal boiler shall not operate more than 8,400 hours per year, calculated monthly as the sum of each consecutive 12 month period.

Condition # 18, The throughput of coal to the primary boilers shall not exceed 253,932 tons per year, calculated monthly as the sum of each consecutive 12 month period.

Condition #19 The 90.0 x $10^6$ btu/hr auxiliary boiler shall consume no more than 917.2 x $10^6$ cubic feet of natural gas per year, calculated monthly as the sum of each consecutive 12 month period.

Condition #20 The 1.2 x $10^6$ btu/hr boiler feed water diesel pump shall consume no more than 1044 gallons of distillate oil per year, calculated as the sum of each consecutive 12 month period.

Condition #21 The 0.7 x $10^6$ btu/hr emergency fire water diesel pump shall consume no more than 580 gallons of distillate oil per year, calculated as the sum of each consecutive 12 month period.

Condition #22 The auxiliary boilers (2) and the primary boilers (2) shall not be operated concurrently except during start up and shutdown, and then for no more than 11 hours over any consecutive 24 hour period, unless both coal boilers are operating at 50 percent capacity or less.

Condition # 28. The maximum sulfur content of the coal to be burned in the primary boilers shall not exceed 1.3 percent by weight, per shipment. The permittee shall maintain records of all coal shipments purchased, indicating sulfur and ash content per shipment. These records shall be available on site for inspection by Department personnel. They shall be kept on file for the most current three year period.

Condition # 29 The maximum sulfur content of the distillate fuel oil to be burned in the 73.43 x $10^6$ btu/hr auxiliary boiler, 1.2 x $10^6$ btu/hr emergency boiler feed water diesel pump, and the 0.7 x $10^6$ btu/hr fire water diesel pump shall not exceed 0.3 percent by weight per shipment. The permittee shall maintain records of all fuel oil shipments purchased indicating the sulfur content per shipment. These records shall be available on site for inspection by DEQ personnel. They

shall be kept on file for the most current three year period.

Condition #30 The average sulfur content of the distillate fuel oil to be burned in the 73.43 x $10^6$ auxiliary boiler shall not exceed 0.2 percent by weight. The permittee shall maintain records of all fuel oil shipments purchased and the annual average sulfur content determined monthly. These records shall be available on site for inspection by DEQ personnel. They shall be kept on file for the most current three year period.

Condition #31 The maximum sulfur content of the distillate fuel oil to be burned in the 73.43 x $10^6$auxiliary boiler during start-up and shutdown of the primary boilers shall not exceed 0.2 percent by weight. The permittee shall maintain records of the fuel oil sulfur content used during periods of primary boiler start-up and shutdown and these records shall be available on site for inspection by DEQ personnel. They shall be kept on file for the most current three year period.

Condition #32 Sampling shall be conducted or fuel oil purchase records shall be maintained to verify the maximum percent sulfur by weight in the fuel oil used during periods of primary boilers start-up and shutdown. All sampling analyses exceeding 0.2 percent by weight shall be submitted to the DEQ (Director, Piedmont Regional Office).

Condition #33 Emissions from the operation of each primary boiler when burning coal shall not exceed the limitations specified as follows:

| Pollutants | lbs/$10^6$ btu | lbs/hr | tons/yr |
|---|---|---|---|
| Total suspended particulate | 0.020 | 7.6 | 32.0 |
| PM 10 | 0.018 | 6.8 | 29.0 |
| Sulfur Dioxide | 0.162 | 61.3 | 258.0 |
| Nitrogen Oxides* | 0.30 | 113.7 | 478.0 |
| Carbon Monoxide | 0.20 | 76.0 | 318.0 |
| Volatile Organic Compounds** | 0.030 | 11.4 | 48.0 |
| Fluorides, as HF | --- | 0.3 | 1.1 |
| Sulfuric Acid Mist | --- | 4.7 | 20.5 |

*Lower limits may be imposed by the DEQ after review of in-stack testing and optimizing the SNCR system at various loads.
**Lower limits may be imposed by the DEQ after in-stack testing.

Condition #34 Emissions from the operation of each primary boiler's natural gas startup burner shall not exceed the limitations specified as follows:

| Pollutants | lbs/$10^6$ btu | lbs/hr |
|---|---|---|
| Total Suspended Particulate | 0.013 | 0.80 |
| PM10 | 0.013 | 0.80 |
| Sulfur Dioxide | 0.009 | 0.50 |
| Nitrogen Oxides | 0.140 | 8.33 |
| Carbon Monoxide | 0.040 | 2.40 |
| Volatile Organic Compounds | 0.009 | 0.50 |

Condition #35 Emissions from the operation of the 73.43 x $10^6$ btu/hr auxiliary boiler shall not exceed the limitations specified below. Annual emissions are included in Condition IV.A.2.

Natural Gas:

| Pollutants | lbs/$10^6$ btu | lbs/hr |
|---|---|---|
| Nitrogen Oxides* | 0.065* | 4.8* |
| Carbon Monoxide | 0.082 | 6.0 |
| Volatile Organic Compounds | 0.041 | 3.0 |

Distillate Fuel Oil

| Pollutants | lbs/$10^6$ btu | lbs/hr |
|---|---|---|
| Total Suspended Particulate | 0.04 | 2.9 |
| PM10 | 0.03 | 2.2 |
| Sulfur Dioxide | 0.31 | 22.8 |
| Nitrogen Oxides* | 0.10* | 7.3* |
| Carbon Monoxide | 0.082 | 6.0 |
| Volatile Organic Compounds | 0.041 | 3.0 |

*Based on high heat release rate.

Condition #36 Emissions from the operation of the 90.0 x $10^6$ btu/hr auxiliary boiler shall not exceed the limitations specified below. Annual emissions are included in Condition V. A. 2.

| Pollutants | lbs/$10^6$ btu | lbs/hr |
|---|---|---|
| Total Suspended Particulate | 0.0053 | 0.5 |
| PM10 | 0.0053 | 0.5 |
| Nitrogen Oxides | 0.05 | 4.5 |
| Carbon Monoxide | 0.082* | 7.4 |
| Volatile Organic Compounds | 0.0082 | 0.8 |

*(@ 15% excess air)

Condition #37 Combined emissions from the operation of the two primary boilers and the two auxiliary boilers shall not exceed the limitations specified below:

| Pollutants | tons/yr |
|---|---|
| Total Suspended Particulate | 64.5 |
| PM10 | 58.4 |
| Sulfur Dioxide | 518.7 |
| Nitrogen Oxides* | 956.2 |
| Carbon Monoxide | 637.1 |
| Volatile Organic Compounds** | 96.5 |

*Lower limits may be imposed by the DEQ after review of in-stack testing and optimizing the SNCR system at various loads.
**Lower limits may be imposed by the DEQ after in-stack testing.

Condition #38 NOx emissions from the operation of the 1.2 x $10^6$ btu/hr emergency boiler feed water pump shall not exceed 5.4 lbs/hr nor 0.5 tons/yr.

Condition #43 In order to protect the short-term National Ambient Air Quality Standard for SO2, the maximum SO2 emissions from each of the primary boilers for any 180 minute period shall not exceed 0.162 lbs/$10^6$ btu.

Condition #44 The 90.0 x $10^6$ btu/hr boiler and the 73.43 x $10^6$ btu/hr boiler stack(s) shall be constructed to a height of 200 feet or greater above ground level.

Condition #45 A physical barrier shall be installed at the facility property line to prevent public access.

Condition #46 Visible emissions from common stack of the two primary boilers and the 73.43 x $10^6$ btu/hr auxiliary boiler stack shall not exceed ten (10) percent opacity except during one six (6) minute period per hour which shall not exceed twenty (20) percent opacity.

Condition #47 Visible emissions from the 90.0 x $10^6$ btu/hr auxiliary boiler stack shall not exceed ten (10) percent opacity except during one six (6) minute period in any one hour in which visible emissions shall not exceed twenty (20) percent opacity. This condition applies at all times except during startup, shutdown, and malfunction. Visible emission evaluations shall be conducted on the boiler stack. The details of the test shall be arranged with the Director, Piedmont Regional office. The permittee shall submit a test protocol at least thirty (30) days prior to testing.

Condition #49 Visible emissions from the operation of the emergency boiler feed water diesel pump, and the fire water diesel pump shall not exceed ten (10) percent opacity, except during one six (6) minute period per hour which shall not exceed twenty (20) percent opacity. This condition applies at all times except during startup, shutdown, and malfunction.

Condition #58 The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Piedmont Regional Office. These records shall include, but are not limited to:

a. Continuous monitoring system calibrations and calibration checks, percent operating time, and excess emissions.

b. Results of all stack tests, visible emission evaluations and performance evaluations.

c. Monthly estimates of the mass of material processed by the ash unloading/truck loading system. The estimate shall be based upon the amount of coal burned and/or

the amount of lime sorbent used and/or a measurement of the amount of material unloaded. The assumptions and records used to estimate the emissions shall be documented and available on site for inspection by DEQ personnel. Annual estimates of material processed shall be calculated monthly as the sum of the material process for each consecutive 12 month period.

d. Any host steam agreement, excluding financial terms, shall be made available on site for review by the DEQ upon request.

e. Throughput of coal to the facility, calculated monthly as the sum of each consecutive 12 month period.

f. Throughput of natural gas to each boiler, calculated monthly as the sum of each consecutive 12 month period.

g. Throughput of distillate oil to each piece of equipment, calculated monthly as the sum of each consecutive 12 month period.

h. Fuel oil certifications identifying the sulfur content of the distillate oil.

i. Annual hours of operation for each primary coal boiler, calculated monthly as the sum of each consecutive 12 month period.

j. Operational records showing compliance with Condition #22.

These records shall be available for inspection by DEQ and shall be current for the most recent three years.

Compliance shall be determined as stated in the Title V Conditions (Condition #'s: VIII B. 1 – 4 and VIII C. 1 - 2).

**Monitoring and Recordkeeping**

The facility is a major source subject to Title V permitting and therefore subject to 40 CFR Part 64, Compliance and Assurance Monitoring (CAM). An emission unit is subject to CAM if it meets all of the following criteria on a pollutant-by-pollutant basis:

a. Emits or has the potential to emit uncontrolled quantities of one or more regulated pollutants at or above major source levels.

b. Is subject to one or more emissions limitations for the regulated air pollutants for which it is a major source before control(s), and

c. Uses an add-on control device to achieve compliance with the emissions limitations.

Since each of the two coal boilers have the uncontrolled potential to emit more than 100 tons per

year of particulate emissions, each is subject to a particulate emission limit, and each use a fabric filter baghouse to comply with this particulate emission limit, then both boilers meet the above criteria for CAM. In addition each boiler does not qualify for a CAM exemption since:

(1) The NSPS requirements were not recently promulgated and
(2) There is no continuous emission monitor (CEMs) for particulate emissions.

The applicant submitted CAM information pertaining to the boilers' as required by 40 CFR 64.5, Deadlines for Submittals.

Stack testing in the past has demonstrated compliance with the PM emission limits. In 1992, both units were tested for both pollutants. The results were as follows:

Unit 001: 0.0153 lbs/mmbtu
Unit 002: 0.000069 lbs/mmbtu

Both results were lower than the most restrictive emission limit, which is 0.018 lbs/mmbtu for $PM_{10}$.

CAM is designed to provide data that "provide a reasonable assurance of compliance with emission limitations or standards for the anticipated range of operations" at an emissions unit. Therefore opacity measured by the continuous opacity monitoring system (COMs) will be adequate to meet the requirements of CAM for both types of PM.

Boilers 1, 2, 3, and 5 have been given an opacity requirement with a corresponding monitoring requirement utilizing COMs operated and maintained in accordance with 40 CFR 60.13 or utilizing EPA Reference Method 9. The smaller combustion sources have been given an informal opacity evaluation to be performed once per month that the units are in operation. An evaluation noting an excess emission condition will require corrective action. The process units also are required to make periodic informal opacity evaluations and must undertake corrective action for observed excess opacity conditions.

Additionally, parametric monitoring of the fabric filter baghouse for units 1 and 2 will fulfill CAM requirements for particulate emissions. The pressure drop across the fabric filter shall be continuously monitored and recorded on a chart or a data acquisition system. The recordings shall be compared to the baseline upper and lower range measurements taken during the most recent stack test or manufacturer recommendations. Corrective action shall be taken upon discovery of the pressure drop being outside the established baseline ranges. A corrective action plan shall be developed by the source, kept on-site and updated as necessary. The fabric filter baghouse as well as any of its monitoring devices shall be maintained, operated and calibrated according to manufactures' specifications.

To ensure compliance with the emission limits for pollutants not monitored by CEMs, the source will be required to maintain records of the types and amounts of fuel combusted in the units and to calculate emissions monthly as the sum of each consecutive 12-month period. In addition, the permittee is required to either calculate short term emissions (lbs/hr and lbs/million Btu) daily

or to demonstrate using maximum hourly fuel throughput or power output and emission factors that the units comply with the limitations as established in the Title V permit (see attached calculation spreadsheet). The permittee is required to maintain records of all calculations and assumptions used in such calculations.

Some of the combustion units have fuel sulfur limitations. Compliance with the sulfur requirements is demonstrated through recordkeeping. Compliance with the opacity requirements for the primary and auxiliary boilers is demonstrated through monitoring utilizing COMs. Compliance with the SO2, NOx, and CO2 or O2 emission limitations for the primary boilers shall be assured by utilizing CEMs in accordance with approved procedures in 40 CFR 60.13 and 60.47a.

Sources subject to NSPS requirements in 40 CFR 60 Subparts Da and Dc will demonstrate compliance through the specific subpart requirements.

**Testing**

Testing to demonstrate compliance with emission limits in addition to the monitoring specified in this permit, is to occur once per Title V permit term for particulate matter and SO2. The permittee shall use the following methods in accordance with procedures approved by DEQ:

The following table applies only to those pollutants that have emission limits.

| Pollutant | Test Method (40 CFRPart 60, Appendix A)** |
|---|---|
| VOC | EPA Methods 18, 25, 25a |
| VOC Content | EPA Methods 24, 24a |
| NOx | EPA Method 7 |
| SO2 | EPA Method 6 |
| CO | EPA Method 10 |
| PM/PM-10 | EPA Method 5,17 |
| Visible Emission | EPA Method 9, 22 |

** Alternative equivalent methods may be utilized upon prior written DEQ approval.

**Reporting**

The permit includes quarterly NSPS fuel reporting requirements.

Da and Db reporting requirements are now submitted on a semi-annual basis except for the excess emission reports which are still submitted on a quarterly basis.

The permit includes quarterly report requirements of excess emissions and monitor(s) downtime.

**EMISSION UNIT APPLICABLE REQUIREMENTS – Unit ID Nos. 004a-h and 010 - 017, Coal, Ash, and Lime Handling and Storage Equipment**

There are three distinct process equipment areas that support the fuel burning emission sources with specific applicable requirements:

> Coal Unloading – railcar dumping (004a), Coal Pile Stacking – coal stacker tube, (004b), Outdoor Coal Storage (004c) Coal Crushing Operations – coal crushers (004d), Coal Silo #1- crushed coal storage (004e) Coal Silo #2 - crushed coal storage (004f) Coal Silo #3 - crushed coal storage (004g) Coal Silo #4 - crushed coal storage (004h)
>
> Ash Conveying – A ash conveying blower (010) Ash Conveying – B ash conveying blower (012), Ash Conveying – C ash conveying blower (013) ), Ash Unloading Feeder – ash unloading (014) ), Recycle Ash Bin – recycle ash storage (015), Ash Silo – fly ash /bottom ash storage (016) ),
>
> Lime Silo – pebble lime storage (017).

These areas and equipment are subject to NSPS for Coal Preparation Plants (40CFR 60 Subpart Y) because they were constructed after October 24, 1974 and have the potential to process more than 200 tons of coal per day. These units are permitted under the January 30, 2012 PSD Permit.

These areas and equipment are also subject to NSPS for Nonmetallic Mineral Processing (40CFR 60 Subpart OOO) by “power plant” definition in 60.671.

**Limitations**
The following Title V permit limitations consist of emission standards and /or operational conditions based upon BACT determinations and NSPS standards as well as, the limitations listed in the November 4, 2002, PSD permit. The condition numbers are those listed in the January 30, 2012 PSD Permit . The condition numbers are those listed in the January 30, 2012 PSD Permit .

Condition # 5 Particulate emissions from the coal feed silos, lime storage silo, recycle bin, discharge storage silo, flyash silo, and bottom ash silo (Unit Ref. Nos. 04.a.-h., 010-016) shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection.

Condition# 6 Fugitive dust emissions from coal unloading, feeding, and conveying shall be controlled by enclosure and wet suppression with surfactant as necessary.

Condition # 7 Lime slaker emissions shall be controlled by a dust suppression aspirator and water jet spray system (venturi scrubber). The aspirator vapor discharge shall be piped directly to the slurry tank for complete enclosure of all dust particles produced during the slaking process. The control system shall be provided with adequate access for inspection and shall have a device for continuous measurement of temperature.

Condition #8 The coal crusher (Unit Ref. No. 004.d.) shall be enclosed to prevent fugitive dust emissions. A fabric filter or other dust control methods, as approved by the Director, Piedmont Regional Office, may be required after visible inspection by DEQ personnel.

Condition #9 All conveyor belt returns shall be equipped with a belt scraper system. Scrapings shall be returned in an enclosed manner to the main flow of material.

Condition #10 Fugitive dust emissions from the coal feed silo to the primary boiler feed hopper shall be controlled by enclosed belt feed conveyors.

Condition #11 Fugitive dust emissions from the ash and flue gas desulfurization product storage silo shall be controlled by mixing the discharge with water.

Condition #12 Coal stockpiles (Unit Ref. No. 004.c.) shall be moist or treated (wet suppression and surfactant) and the stockpile surfaces shall be kept moist or treated as required to minimize emissions during storage and handling.

Condition #13 Fugitive emissions from facility access roads shall be controlled by paving.

Condition #23 The ash unloading/truck unloading system shall not process more than 87,987 tons per year of material, calculated monthly as the sum of each consecutive 12-month period.

Condition # 39 Fugitive dust emissions from the operation of the coal and lime storage and handling systems shall not exceed the limitations specified below:

| Pollutants | lbs/hr | tons/yr |
|---|---|---|
| Total Suspended Particulate | 0.3 | 1.2 |
| PM10 | 0.3 | 1.2 |

These emissions are derived from the estimated overall emission contribution and are included for emission inventory purposes. Compliance shall be determined as stated in Conditions (Condition #'s: VIII A. 1 – 14).

Condition # 40 Emissions from the ash unloading/truck loading system shall not exceed the limitations specified below:

| Pollutants | lbs/hr | tons/yr |
|---|---|---|
| Total Suspended Particulate | 5.0 | 2.0 |
| PM10 | 2.4 | 1.0 |

These emissions are derived from the estimated overall emission contribution and are included for emission inventory purposes. Compliance shall be determined as stated in Conditions (Condition #: VIII A. 13).

Condition # 41 Emissions from the two (2) ash silo fabric filters shall not exceed the limitations specified below:

| Pollutants | lbs/hr | tons/yr |
|---|---|---|
| Total Suspended Particulate | 0.6 | 2.6 |
| PM10 | 0.6 | 2.6 |

Condition # 42 Emissions from the recycle fly ash silo fabric filter shall not exceed the limitations specified below:

| Pollutants | lbs/hr | tons/yr |
|---|---|---|
| Total Suspended Particulate | 0.2 | 1.0 |
| PM10 | 0.2 | 1.0 |

Condition #48 Visible emissions from all fabric filters (except those on the primary boilers) shall not exceed five (5) percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).

Condition #50 Visible emissions from the ash unloading/truck loading system shall not exceed ten (10) percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).

Condition #51 Visible emissions from the coal storage pile (Unit Ref. No. 004.c.) shall not exceed ten (10) percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).

**Monitoring**

Sources subject to NSPS requirements in 40 CFR 60 Subpart Y and will demonstrate compliance through the specific subpart requirements. E.g. site specific monitoring plan that in includes monitoring the opacity and the filter bag leak detection system.

Compliance with hourly and annual particulate emissions is demonstrated through the use of work practice related controls, bag filters at transfer points, enclosures where appropriate, and wet suppression. The Performance Test for Coal Handling and Processing Equipment dated November 23, 1997 and December 18,1997, and submitted to DEQ on January 2, 1998, completes the requirement for opacity testing of Unit Ref. Nos. 004.a. through h. as required by 40 CFR 60 Subpart Y (reference 40 CFR 60.254). A corrected report (the height of the emission point relative to the observer was corrected) was submitted to DEQ on March 9, 1998. The results of this performance test indicated 0% (zero percent) opacity for all affected units as determined by EPA Method 9. Therefore, the permittee is considered to be in compliance with the testing requirements of 40 CFR 60.254 and with the opacity and particulate matter requirements of 40 CFR 60.252(c). At least, one time per week when in operation, an observation of the presence of visible emissions shall be made. If visible emissions are observed, the permittee shall take timely corrective action such that units resume operation with no visible emissions or perform a visible emissions evaluation (VEE) in accordance with 40 CFR 60, Appendix A, Method 9, to assure visible emissions from the units do not exceed ten percent

(10%) opacity and five (5%) for fabric filters. The VEE shall be conducted for a minimum of six minutes. If any of the observations exceed 10 percent or 5 percent for the fabric filters, the VEE shall be conducted for a total of 60 minutes. If compliance is not demonstrates by this VEE, timely corrective action shall be taken such that the units resume operation with visible emissions of 10 percent or less or 5 percent or less for fabric filters. The permittee shall maintain an observation log to demonstrate compliance. The log shall include the date and time of the observations, whether or not there were visible emissions, any VEE recordings and any necessary corrective action.

The main boilers (001 and 002) at the Hopewell Power Station are subject to the requirements of 40 CFR Part 64, *Compliance Assurance Monitoring*, this is referred to as the CAM program. These boilers are the only two pollutant specific emissions units at this facility that meet all three criteria for potential applicability under the CAM program. The three criteria are:

- The boilers are subject to an emission limitation or standard for regulated air pollutants;
- The boilers use control devices to achieve compliance with these standards; and
- The boilers have a potential pre-control device emissions of the applicable regulated air pollutants that are greater than 100 tons per year, which is the applicable major source threshold.

Therefore, each of these boilers is potentially subject to CAM for emissions of particulate matter (PM and $PM_{10}$), oxides of nitrogen (NOx), and sulfur dioxide ($SO_2$), These units each have the potential to emit more than 100 tons per year of each of these pollutants for which emissions limits apply and use add-on control devices to comply with these limits.

Particulate matter emissions (both PM and $PM_{10}$), are controlled by the fabric filters. The effectiveness of the fabric filter's control can be immediately identified with the opacity of the boilers' visible emissions. Opacity is continuously monitored by a Continuous Monitoring System (COMS). Continuous values are measured and recorded as reduced to six-minute block averages. Additionally, the pressure drop across the fabric filters shall be monitored and recorded on a chart or a data acquisition system. The recordings shall be compared to the baseline upper and lower ranges measurements taken during the most recent stack test or manufacturer recommendations. Corrective action shall be taken upon discovery of the pressure drop being outside these established baseline ranges. A corrective action plan shall be developed by the source, kept on-site, and updated as necessary. The fabric filter baghouse as well as any of its monitoring devices shall be maintained, operated and calibrated according to manufacturer's specifications.

Emissions of Nitrogen are controlled by selective non-catalytic reduction (SNCR). Each unit is subject to the same emission limitation of 0.30 pounds of NOx per million Btu heat input on a 30-day rolling average basis when firing coal and each has the uncontrolled potential to emit more than 100 tons per year of NOx. Emissions of NOx are required to be continuously monitored using a continuous emissions monitoring system (CEMS). Each boiler is equipped with its own CEMS for NOx which is installed in the ductwork prior to entering the common stack. These meet the CAM program definition of "continuous compliance determination method" found

in §64.1. Because condition III.B.5 of the Title V permit requires the use of CEMSs to demonstrate compliance with the NOx emission limits, the exemption from CAM in §64.2(b)(vi) applies. Therefore, the CEMSs are used in lieu of CAM and CAM does not apply to NOx emission limits.

Emissions of $SO_2$ from both main boilers are controlled by lime spray driers. Each unit is subject to the same emission limitation of 0.162 pounds per million Btu heat input on a 30-day rolling average basis when firing coal and each has the uncontrolled potential to emit more than 100 tons per year of $SO_2$. Emissions of $SO_2$ are required to be continuously monitored using a continuous emissions monitoring system (CEMS). Each boiler is equipped with its own CEMS for $SO_2$ which is installed in the ductwork prior to entering the common stack. These meet the CAM program definition of "continuous compliance determination method" found in §64.1. Because condition III.B.6 of the Title V permit requires the use of CEMSs to demonstrate compliance with the $SO_2$ emission limits, the exemption from CAM in §64.2(b)(vi) applies. Therefore, the CEMSs are used in lieu of CAM and CAM does not apply to $SO_2$ emission limits.

**Recordkeeping**

The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Piedmont Regional Office. These records shall include, but are not limited to:

- Maintaining a logbook on site and make it available upon request

- Manufacturer's recommended maintenance procedures, date, and time of any maintenance inspections.

- Date and time of periodic coal preparation and processing plant visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall be noted.

- The amount and type of coal processed each calendar month.

- The amount of chemical stabilizer or water purchased for use in the coal preparation and processing plant.

- Monthly certification that the dust suppressant systems were operational when any coal was processed and that manufacturer's recommendations were followed for all control systems. Any variance from the manufacturer's recommendations, if any, shall be noted.

- Monthly certification that the fugitive coal dust emissions control plan was implemented as described. Any variance from the plan, if any, shall be noted. A copy of the applicable fugitive coal dust emissions control plan and any letters from the Administrator providing approval of any alternative control measures shall be maintained with the logbook. Any actions, e.g. objections, to the plan and any actions relative to the alternative control

measures, e.g. approvals, shall be noted in the logbook as well.

- For each bag leak detection system, the owner or operator must keep the records specified in paragraphs (i) through (iii) of this section.

  (i) Records of the bag leak detection system output;

  (ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection settings; and

  (iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.

- A copy of any applicable monitoring plan for a digital opacity compliance system and monthly certification that the plan was implemented as described. Any variance from plan, if any, shall be noted.

- During a performance test of a wet scrubber, and each operating day thereafter, the owner or operator shall record the measurements of the scrubber pressure loss, water supply flow rate, and pH of the wet scrubber liquid.

- During a performance test of control equipment other than a wet scrubber, and each operating day thereafter, the owner or operator shall record the measurements of the reagent injection flow rate, as applicable.

**Testing**

Testing to demonstrate compliance with emission limits in addition to the monitoring specified in this permit, is to occur once per Title V permit term for particulate matter and SO2. The permittee shall use the following methods in accordance with procedures approved by DEQ as follows:

The following table applies only to those pollutants that have emission limits.

| Pollutant | Test Method (40 CFRPart 60, Appendix A)** |
|---|---|
| VOC | EPA Methods 18, 25, 25a |
| VOC Content | EPA Methods 24, 24a |
| NOx | EPA Method 7 |
| SO2 | EPA Method 6 |
| CO | EPA Method 10 |
| PM/PM-10 | EPA Method 5,17 |
| Visible Emission | EPA Method 9, 22 |

** Alternative equivalent methods may be utilized upon prior written DEQ approval.

**Reporting**

The coal unloading and processing system is subject to NSPS, Subpart Y – Standards of Performance for Coal Preparation and Processing Plants. This subpart is applicable to the following facilities in coal preparation plants that can process more than 200 tons per day: thermal dryers, pneumatic coal cleaning equipment, coal processing and conveying equipment (including breakers and crushers), coal storage systems, and coal transfer and loading systems. The effective date of these standards was October 24, 1974.

**Streamlined Requirements**
The following conditions in the January 30, 2012 PSD Permit have not been included for the reasons provided:

Condition 20 limiting the fuel consumption of the auxiliary diesel generator has not been included. The generator was removed 02/06/2002.

Condition 28 The part limiting the type of fuel for the auxiliary diesel generator has not been included. The generator was removed 02/06/2002.

Condition 30 The part limiting the amount of sulfur in the fuel for the auxiliary diesel generator has not been included. The generator was removed 02/06/2002.

**GENERAL CONDITIONS**

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

**Permit Expiration**

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement No. 2-2003".

This general condition cite(s) the Article(s) that follow(s):
Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:
9 VAC 5-80-80. Application
9 VAC 5-80-140. Permit Shield
9 VAC 5-80-150. Action on Permit Applications

**Failure/Malfunction Reporting**

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

In order for emission units to be relieved from the requirement to make a written report in 14 days the emission units must have continuous monitors meeting the requirements of 9 VAC 5-50-410 or 9 VAC 5-40-41.

This general condition cites the sections that follow:

9 VAC 5-40-41. Emissions Monitoring Procedures for Existing Sources
9 VAC 5-40-50. Notification, Records and Reporting
9 VAC 5-50-50. Notification, Records and Reporting

This general condition contains a citation from the Code of Federal Regulations as follows:
40 CFR 60.13 (h). Monitoring Requirements.

**Permit Modification**

This general condition cites the sections that follow:
9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources
9 VAC 5-80-190. Changes to Permits.
9 VAC 5-80-260. Enforcement.
9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources
9 VAC 5-80-1790. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

**Malfunction as an Affirmative Defense**

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:
9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction
9 VAC 5-80-110. Permit Content

**Asbestos Requirements**

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow: 40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70. Designated Emissions Standards
9 VAC 5-80-110. Permit Content

## STATE ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

9 VAC 5-50-310, Odorous Emissions
9 VAC 5-50-320, Toxic Pollutants

## FUTURE APPLICABLE REQUIREMENTS

None

## INAPPLICABLE REQUIREMENTS

| Citation | Title of Citation | Determination of Applicability |
|---|---|---|
| 9 VAC 5-40-60 (Rule 4-1) | Emission Standards for Visible Emissions and Fugitive Dust /Emissions | Units 001 & 002 are subject opacity standards listed in Da which is more stringent than this rule. |
| 9 VAC 5-40-900 (Rule 4-8) | Particulate Matter Standard for Fuel Burning Equipment | This standard does not apply to stationary internal combustion engines, which include the emergency diesel feed water pump and the diesel firewater pump. Units 001 & 002 and the auxiliary boilers are subject to NSPS Subparts Da, Db, which have more stringent particulate matter emissions limits. |

| Citation | Title of Citation | Determination of Applicability |
|---|---|---|
| 9 VAC 5-40-930 (Rule 4-8) | Sulfur Dioxide Standard for Fuel Burning Equipment | This standard does not apply to stationary internal combustion engines, which include the emergency diesel feed water pump and the diesel firewater pump. Units 001 & 002 and the auxiliary boilers are subject to NSPS Subparts Da, Dc, which have more stringent $SO_2$ emissions limits. |
| 40 CFR 60 Subpart D, | Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 | Units 001 and 002 covered by Da, therefore not covered under this subpart, reference 60.40 (a)(2)(e). |
| 40 CFR 60 Subpart Db, | Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units | Steam generating units 003 and 004 less than 100 mm Btu/Hr. (Dc applies) |
| 40 CFR 60 Subpart K, | Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and prior to May 19, 1978 | No emissions sources at this facility are subject to these NSPS requirements. |
| 40 CFR 60 Subpart Ka | Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and prior to July 23, 1984 | This standard does not apply to the fuel oil storage tanks because it is not applicable to units storing petroleum liquids with a vapor pressure less than 1.5 pounds per square inch |
| 40 CFR 60, Subpart Kb | Volatile Organic Liquid Storage Vessels Standards | This Subpart does not apply to the distillate oil storage tanks because the fuel has a maximum true vapor pressure of less than 15 kPa. |
| 40 CFR 60, Subpart IIII | Stationary Compression Ignition Internal Combustion Engines Standards | This Subpart does not apply to the diesels on site because they were constructed before July 11, 2005. |

| Citation | Title of Citation | Determination of Applicability |
|---|---|---|
| 40 CFR 60, Subpart OOO | Standards of Performance for Nonmetallic Mineral Processing Plants | Coal crushers and conveyors only |
| 40 CFR 63 MACT ZZZZ | National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines | Facility is not a major source for HAPs. |
| 9 VAC 5-40-240 (Rule 4-4) | Emission Standards for General Process Operations | Applicability to coal crushing and ash handling. |
| 9 VAC 5-40-5220 (Rule 4-37) | VOC Standards for Petroleum Liquid Storage and Transfer Operations | This standard does not apply to the fuel oil storage tanks because it is not applicable to units storing petroleum liquids with a vapor pressure less than 1.5 pounds per square inch. |

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A.4 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

## COMPLIANCE PLAN

In accordance with the requirements of Section D and Appendix A of the July 10, 2008 Consent Order for the Hopewell Power Station, the following monitoring and recordkeeping requirements have been added to the Title V Permit:

A. Grit Screen* inspections to access physical wear shall be performed every day of operation. Virginia Electric and Power Company shall keep a daily log of all inspections.

B. Grit screens shall be replaced every 31 operational days or sooner if daily inspections indicate otherwise. Virginia Electric and Power Company shall keep a log of all replacements.

All logs and records maintained for each of the grit screen inspections and replacements shall be made available to the DEQ upon request.

*Grit screens are the final filtering screen for the lime slurry before it mixes with the ash for supply to the atomizers.

## INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

| Emission Unit No. | Emission Unit Description | Citation (9 VAC_) | Pollutant(s) Emitted (9 VAC 5-80-720 B) | Rated Capacity (9 VAC 5-80-720 C) |
|---|---|---|---|---|
| ISU-1 | Turbine Lube Oil Reservoir | 9 VAC 5-80-720 B | VOC | 3,434 Gallons |
| ISU-2 | Solvent Based Parts Washer | 9 VAC 5-80-720 B | VOC | 55 Gallons |
| ISU-3 | Waste Oil Tank | 9 VAC 5-80-720 C | N/A | 500 Gallons |
| ISU-4 | Portable Welder Engine | 9 VAC 5-80-720 B | Nox,SO2, VOC, PM, PM-10, CO | 0.21 mm BTU/Hr 30 BHP |
| ISU-5 | Oil/Water Separator (Oil Sump) | 9 VAC 5-80-720 C | N/A | 280 Gallons |

[1]The citation criteria for insignificant activities are as follows:
9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

## CROSS-STATE AIR POLLUTION CONTROL RULE (CSAPR)

The current affected CAIR units will be subject to the Cross-State Air Pollution Control Rule (CSAPR) (effective October 7, 2011) which replaces the Clean Air Interstate Rule (CAIR) on January 1, 2012. Virginia at this time will implement the CSAPR requirements through the federal implementation plan (FIP) as per Chapter 291 of the 2011 Virginia Acts of Assembly and 40 CFR 97.

## CLEAN AIR INTERSTATE RULE (CAIR) REQUIREMENTS

The Spreader Stoker Boilers #1 and #2 (Unit ID 001, 002) are subject to federal CAIR requirements for $NO_x$ $SO_2$ and $NO_x$ Ozone Season, and the following permit condition was

included to address this rule.

1. The permittee shall comply with all applicable CAIR requirements (9 VAC 5-140-1010 *et seq.*, 9 VAC 5-140-2010 *et seq.*, 9 VAC 5-140-3010 *et seq.*, and 40 CFR Part 96) by the compliance date in the respective Part of 9 VAC 5 Chapter 140. The CAIR application in Attachment A to this document contains specific conditions and expires upon expiration of this Title V permit.
   (9 VAC 5-80-110 of State Regulations, 40 CFR Part 96 and 9 VAC 5 Chapter 140)

**CONFIDENTIAL INFORMATION**

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

**PUBLIC PARTICIPATION**

The proposed permit will be placed on public notice in the Hopewell News from September 15, 2011 to October 15, 2011 .